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22

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,023	01/16/2004	Tomochika Murakami	00862.023401	6269
5514 7590 09/05/2007 FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			EXAMINER ABDI, AMARA	
			ART UNIT 2624	PAPER NUMBER
			MAIL DATE 09/05/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/758,023

Applicant(s)

MURAKAMI ET AL.

Examiner

Amara Abdi

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 13 and 17-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 13 and 17-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 January 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :04/13/2004
04/28/2004.

DETAILED ACTION

1. Applicant's election of Specie I, corresponding to claims 1-9,13, and 17-19 in the reply filed on 08/08/2007 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4,6-7,9,13, and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura (US-PGPUB 2003/0012406) in view of Yamagishi (US-PGPUB 2003/0025805).

(1) Regarding claims 1 and 13:

Iwamura disclose an image processing method and apparatus (paragraph [0001], line 2-3) for generating information (paragraph [0071], line 2-3) that allows to detect a position of tampering for an original image (paragraph [0001], line 3-4; and paragraph [0118], line 4-6), comprising:

watermark information generation means for generating watermark information which contains the feature image and information associated with the original image (Fig. 1, paragraph [0071], line 1-3; and paragraph [0078], line 1-2);

error-correction encoding means for generating error-correction encoded watermark information by making error-correction encoding of the watermark

information (paragraph [0127], line 4-6), (the check bit that can be appended using an error detection code or the like is read as the same concept as the generating of the error-correction encoded watermark information).

Iwamura does not explicitly mention the generating of a feature image of the original image, and an output image, which is an image formed by replacing image information of the second region in the original image by the error-correction encoded watermark information.

Yamagishi, in analogous environment, teaches an image sensing apparatus, and image processing system, where generating of a feature image of the original image (paragraph [0031], line 2-6), (the generating of a feature image of the original image is read as the same concept as the converting of an optical image into an electrical signal), and displaying the information on the LCD (paragraph [0042], line 1-8; and paragraph [0043], line 1-2), (the outputting of the image is read as the same concept as the displaying of the information on the LCD).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Yamagishi, where generating a feature image, in the system of Iwamura, in order to guarantee prevention of copying, tampering, and illicit use of a digital image in consideration of unprocessed image sensing data acquired by an image sensing device (paragraph [0011], line 3-6).

(2) Regarding claim 2:

Iwamura further discloses an apparatus (paragraph [0071], line 2-3), further comprising:

Art Unit: 2624

encryption means for encrypting the watermark information generated by said watermark information generation means (paragraph [0086], line 1-3), and

wherein said error-correction encoding means makes error-correction encoding of the watermark information encrypted by said encryption means (paragraph [0127], line 4-6; and paragraph [0128], line 1-3), (the generating of check bits for the encrypted blocks is read as the same concept as the error-correction encoding of the watermark information).

(3) Regarding claim 3:

Iwamura further discloses an apparatus (paragraph [0071], line 2-3), further comprising:

reordering means for reordering a bit sequence (paragraph [0363], line 4-7) which forms the error-correction encoded watermark information (paragraph [0127], line 4-6), (the generating of bit sequence having a period of maximum length using m-registers is read as the same concept as the reordering of a bit sequence), and

wherein the bit sequence (paragraph [0363], line 4-7) of the error-correction encoded watermark information is reordered by said reordering means (paragraph [0127], line 4-6).

(4) Regarding claim 4:

Iwamura further discloses an apparatus (paragraph [0071], line 2-3), further comprising:

Hash value calculation means for calculating a Hash value using the image of the first region (paragraph [0139], line 1-3), (the hash value is read as an output value of the hash function), and

wherein said watermark information generation means further stores data of the Hash value in the watermark information (paragraph [0101], line 5-9), (the storing of the various data by the ROM is read as the same concept as the storing of the data of the hash value by the watermark information generating means).

(5) Regarding claim 6:

Iwamura further discloses an apparatus (paragraph [0071], line 2-3) where the bit sequence is a Hash value for a part of the watermark information that contains at least the feature image (paragraph [0139], line 1-8).

(6) Regarding claim 7:

Iwamura disclose all the subject matter as described in claim 1 above.

Iwamura does not explicitly mention the apparatus, where the original image contains information used to specify a process for generating the feature image.

Yamagishi, in analogous environment, teaches an image sensing apparatus, and image processing system, where the original image contains information used to specify a process for generating the feature image (paragraph [0033], line 12-16), (the performing of predetermined arithmetic processing for image sensing data is read as the same concept as the information used to specify a process for generating the feature image).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Yamagishi, where original image contains information used to specify a process for generating the feature image, in the system of Iwamura, in order to guarantee prevention of copying, tampering, and illicit use of a digital image in consideration of unprocessed image sensing data acquired by an image sensing device (paragraph [0011], line 3-6).

(7) Regarding claim 9:

Iwamura disclose all the subject matter as described in claim 1 above.

Iwamura does not explicitly mention that the feature image is a partial image of the original image.

Yamagishi, in analogous environment, teaches an image sensing apparatus, and image processing system, where converting an optical image into an electrical signal (paragraph [0031], line 3-4), (the converting of an optical image is read as an original image and the electrical signal is read as the feature image therefore it is read that the electrical signal is read as a partial of an optical image).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Yamagishi, where the feature image is a partial of the original image, in the system of Iwamura in order to guarantee prevention of copying, tampering, and illicit use of a digital image in consideration of unprocessed image sensing data acquired by an image sensing device (paragraph [0011], line 3-6).

(8) Regarding claim 17 :

a program for making a computer function as an image processing apparatus of claim 1 (paragraph [0469], line 4-10).

(9) Regarding claim 18:

a program for making a computer implement an image processing method of claim 13 (paragraph [0469], line 4-10).

(10) Regarding claim 19:

a computer readable storage medium storing a program of claim 17 (paragraph [0470], line 1-6).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura and Yamagishi, as applied to claim 1 above, and further in view of Watanabe et al. (US-PGPUB 2003/0133591).

Iwamura and Yamagishi disclose all the subject matter as described in claims 1 and 3 above.

Iwamura and Yamagishi do not explicitly mention the decoding of the watermark information.

Watanabe et al., in analogous environment, teaches a decoding method for electronic watermark, where decoding the watermark information (paragraph [0053], line 8; and paragraph [0064], line 5-9), (the decoding of the image information is read as the same concept as the decoding of the watermark information).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Watanabe et al., where using an electronic

watermark decoder, in the system of Iwamura in order to read and decode the electronic watermark embedded in the digital content and making the detected tampered part of the digital content visually identifiable (paragraph [0026], line 16-19).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Iwamura and Yamagishi, as applied to claim 1 above, and further in view of Chang et al. (US 6,532,541).

Iwamura and Yamagishi disclose all the subject matter as described in claim 1 above.

Iwamura and Yamagishi do not explicitly mention the generating of a plurality of feature images by executing different feature extraction processes.

Chang et al., in analogous environment, teaches a method and apparatus for image authentication, where generating of a plurality of feature images by executing different feature extraction processes (column 5, line 42-45), (the providing of set of robust invariant features that have been extracted by the image processor is read as the same concept as the generating of a plurality of feature images by executing different feature extraction processes).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the system of Chang et al., where generating a plurality of feature images, in the system of Iwamura in order to provide an image authenticator which accepts and authenticates images subjected format transformation, lossless compression as well as acceptable forms of lossless compression (column 3, line 6-9).

Art Unit: 2624

Contact Information:

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amara Abdi whose telephone number is (571) 270-1670. The examiner can normally be reached on Monday through Friday 7:30 Am to 5:00 PM E.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wu Jingge can be reached on (571) 272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Amara Abdi
08/30/2007

JINGGE WU
SUPERVISORY PATENT EXAMINER

